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## Research Article

# AWARENESS OF JUNIOR AND SENIOR HIGH SCHOOL STUDENTS ON CLIMATE CHANGE

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### ABSTRACT

The study determined the level of awareness of junior and senior high school students on climate change along its indicators, causes and effects. A structured survey questionnaire was administered to the respondents which includes Grade 9 to Grade 12 as the primary consideration of the study. The researcher used descriptive-evaluative method to determine the level of awareness of junior and senior high school students on the indicators of climate change, the causes of climate change; and effects of climate change.

Results of the study revealed that majority of the students have a high level of awareness on the indicators, causes and effects of climate change at Central Bicol State University of Agriculture, Philippines.

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## INTRODUCTION

Regardless of the widespread scientific conclusion that global climate change is happening, mostly human-caused, and a serious risk, public understanding of these facts and support for climate change policies is more equivocal worldwide (Leiserowitz, A., *et al*, 2015). As evidence of climate change and its impact continues to be amassed, it has become clear that many of the causes of climate change are anthropogenic in nature through lifestyles, consumption and choices that pollute and exploit resources in an unsustainable manner (Pawar, S., 2011). The lack of awareness of the public on climate change results to the continuous malpractices and abuses on the environment which result to weather extremes.

Governments, companies, international institutions, and other organizations have attempted to provide interventions and alternatives to mitigate climate change as eradicating it is no longer positive. Disaster policy response to climate change is dependent on a number of factors, such as readiness to accept the reality of climate change, institutions and capacity, as well as willingness to embed climate change risk assessment and management in development strategies.

From this situation lies the importance of awareness of the young minds on the environmental problems in order to contribute to the pro-environment advocacy. Providing on the adverse effects of greenhouse gas for example, information therefore is vital for generating public and stakeholder support

to government policies and regulations. Reaching out to the public especially the youth can also encourage voluntary changes in habits, address the arguments of those who oppose specific actions and help to prepare them to live in the "climate-change" world that they will soon inherit.

### Objectives of the Study

This study was conducted to determine the level of awareness of junior and senior high school students on its indicators, causes and effects of climate change at Central Bicol State University of Agriculture, Philippines.

## MATERIALS AND METHODS

The researcher used descriptive-evaluative research method to determine the level of awareness of junior and senior high school students on the indicators of climate change, the cause of climate change; and effects of climate change. A structured survey questionnaire was employed to collect the needed data.

## RESULTS AND DISCUSSIONS

### Level of Awareness on the Indicators of Climate Change

The students' awareness of the different indicators of climate change show a very high level of awareness on climate change as indicated by plants and trees becomes dry with the weighted mean of 3.52. This is followed by the weighted mean of 3.41 by the rise in temperature. The presence of acid rain,

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greenhouse gases and dying algae in the ocean all indicated high level of awareness of climate change based on the indicators. Generally, the students' awareness on the indicators of climate change indicates a high level of awareness on the indicators of climate change with a grand mean of 3.25.

The present study revealed that the students are becoming highly aware of this phenomenon. Contrary to the findings of Tsantakis (2008) wherein students were found to be moderately aware of global warming.

**Table 1** Student's Awareness on the indicators of Climate Change

INDICATOR	RESPONDENTS				LOA	Int.
	Grade 9	Grade 10	Grade 11	Grade 12		
Plants and Trees become dry	3.44	3.68	3.29	3.66	3.52	VHLA
Rise in temperature	3.15	3.48	3.42	3.58	3.41	VHLA
Acid rain	3.22	3.3	3.12	3.4	3.25	HLA
Greenhouse gas	3.05	3.28	3.15	3.46	3.24	HLA
Dying of algae in the ocean	2.29	2.98	2.88	3.09	2.81	HLA
Grand Mean	3.03	3.34	3.17	3.44	3.25	HLA

Legend:

LOA – Level of Awareness

3.26 – 4.00 Very High Level of Awareness (VHLA)

2.51 – 3.25 High Level of Awareness (HLA)

1.76 – 2.50 Low Level of Awareness (LLA)

1.00 – 1.75 Very Low Level of Awareness (VLLA)

**Level of Awareness on the Causes of Climate Change**

The students' awareness on the different causes of climate change revealed that "burning of fossil fuels" as a cause of climate change. This is indicated by the weighted mean of 3.39 which indicate a very high level of awareness. The "use of air-conditioned" with a weighted mean of 3.05 indicates only a high level of awareness. The use of microwave and oven and electrical pollution both indicates a high level of awareness. Generally, the awareness on the causes of climate change indicates a high level of awareness with a grand mean of 2.87.

This means that the awareness of students on the causes of climate change may results in two things: students may remain socially aware but will not do anything about it, or students may be socially aware and be involved in activities like promotion of ways to mitigate climate change.

As succinctly pointed out by Mosothware (1991), teachers can provide a vital link in the delivery of environmental knowledge, its associated problems and solution. In order to further increase students' awareness towards climate change, it is necessary to know what level of awareness they possess.

**Table 2** Student's Awareness on the Causes of Climate Change

INDICATOR	RESPONDENTS				LOA	Int.
	Grade 9	Grade 10	Grade 11	Grade 12		
Switching on a light	2.61	2.98	2.59	2.80	2.75	HLA
Watching Television	2.59	2.73	2.56	3.03	2.73	HLA
Use of stereo/radio/karaoke	2.39	2.80	2.61	2.77	2.64	HLA
Using a hair dryer	2.61	3.03	2.98	3.06	2.92	HLA
Burning fossil fuels	2.90	3.45	3.41	3.80	3.39	VHLA
Using microwave and oven	2.90	3.10	2.95	3.06	3.00	HLA
Using an airconditioner	2.80	3.23	3.15	3.03	3.05	HLA
Playing a video game	2.54	2.80	2.66	2.63	2.66	HLA
Using a dishwasher	2.41	2.70	2.54	2.46	2.53	HLA
Electrical pollution	2.78	3.25	2.98	3.00	3.00	HLA
Grand Mean	2.65	3.01	2.84	2.96	2.87	HLA

Legend:

LOA – Level of Awareness

3.26 – 4.00 Very High Level of Awareness (VHLA)

2.51 – 3.25 High Level of Awareness (HLA)

1.76 – 2.50 Low Level of Awareness (LLA)

1.00 – 1.75 Very Low Level of Awareness (VLLA)

**Level of Awareness on the Effects of Climate Change**

The results of the study revealed that the students' level of awareness on the effects of climate change demonstrate a high level of awareness. Students have a very high level of awareness on "tropical cyclones" and "intense heat wave" as effects of climate change. This also reveals the "increase of air pollution" with a mean score of 3.45 and "frequent flooding" (3.41) also reveal a very high level of awareness. The increase "acidity of rainfall", extinction of animals, and "plants and water shortages" were also rated with a very high level of awareness. Generally, students have a very high level of awareness on the effects of climate change as revealed by the grand mean of 3.06.

This means that the awareness of students on the effects of climate change will open an opportunity for the students to promote advocacy on how to mitigate the effects of climate change. Students could conduct various programs and activities that would contribute to lessen the adverse effects of climate change.

As pointed out by Odey (2009), pointed out that climate change pose great danger such as desertification, sea level rise, flooding, and salination among others. These dangers will have impacts on food security, infrastructure and social activities. Additional impacts include threat to health as rising temperature could bring about diseases such as chronic heart rashes, stroke, malaria and other diseases. Climate change will affect every citizen, and every part of our environment.

**Table 3** Student's Awareness on the Effects of Climate Change

Indicator	Respondents				LOA	Int.
	Grade 9	Grade 10	Grade 11	Grade 12		
More floods	3.51	3.28	3.20	3.66	3.41	VHLA
Increased spread of diseases	3.06	3.22	3.10	3.55	3.23	HLA
Degraded water quality	3.22	3.35	3.12	3.19	3.22	HLA
Intense heat waves	3.44	3.55	3.17	3.69	3.46	VHLA
Droughts	3.17	3.50	3.22	3.63	3.38	VHLA
Tropical cyclones (typhoon)	3.44	3.55	3.17	3.69	3.46	VHLA
Lesser agricultural production	2.76	3.30	3.24	3.49	3.20	HLA
Water shortages	2.76	3.18	3.12	3.43	3.12	HLA
Starvation, malnutrition, and increased deaths	3.10	3.38	3.29	3.40	3.29	VHLA
Melting glaciers and polar caps	3.10	3.35	3.10	3.10	3.16	HLA
Extinction of animals and plants	2.98	3.20	2.98	3.31	3.12	HLA
Loss of animal and plant habitats	3.12	3.48	3.34	3.51	3.36	VHLA
Increased air pollution	3.12	3.60	3.39	3.69	3.45	VHLA
Increased acidity rainfall	3.07	3.08	2.90	3.46	3.13	HLA
Rise in sea level	3.02	3.25	3.02	3.37	3.17	HLA
Grand Mean	3.12	3.35	3.16	3.48	3.06	HLA

Legend:

LOA – Level of Awareness

3.26 – 4.00 Very High Level of Awareness (VHLA)

2.51 – 3.25 High Level of Awareness (HLA)

1.76 – 2.50 Low Level of Awareness (LLA)

1.00 – 1.75 Very Low Level of Awareness (VLLA)

**CONCLUSIONS AND RECOMMENDATIONS**

The level of awareness of junior and senior high school students on the indicators, causes and effects was high. The school in collaboration with the parents should prepare a formation program on waste management. Develop and immersion program that will assess the experiential learning of the students on climate change and disaster risk reduction

management. The school and community should also develop a committee that will define the role of students in the different activities on climate change mitigation. Promote ongoing stakeholder/community involvement in decision making regarding climate change education, awareness and training at national and district levels.

Strategic planning should be conducted to clearly outline the different management approaches appropriate to the students and how they can be mobilized to strengthen the government's effort to address the pressing issues of climate change, and establish a system of sustainable financing for climate change education, awareness and training programs.

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